

**PROPOSED CLAIM AMENDMENTS AND POINTS TO BE DISCUSSED AT
EXAMINER INTERVIEW**

1. (currently amended) A method for providing remote engineering for an industrial environment, said industrial environment having a plurality of production devices each with at least one digital control unit connected thereto and employing one or more of a diverse plurality of communication protocols to provide a discreet communication channel providing input of instructions and output of data for each production device, comprising the steps of:

translating the output of said digital control units into a plurality of discrete data streams having a common communication protocol;

reversibly encoding said plurality of discrete data streams into a first single data stream using said common communication protocol;

transmitting said first single data stream to a remote network;

decoding said first single data stream at the remote network into said discrete data streams, wherein each said discrete data stream is in a format particular to an individual production device;

identifying by analysis of said data at the remote network at least one target production device of said plurality of production devices to receive instructions;

formulating a plurality of instructions responsive to said analysis and arranged as a discrete instruction set corresponding to each of said at least one target production device;

reversibly encoding said instruction sets into a second single data stream using said common communication protocol;

transmitting said second single data stream to said industrial environment;

decoding said second single data stream at the local network into said discrete instruction set;

translating said instruction set into at least one of said diverse communication protocols executable by the digital control unit connected to each of said at least one target production unit; and

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delivering said instructions over the local network to the target production unit.

2. (original) The method of Claim 1 wherein said first single data stream and said second single data stream are transmitted across a single bidirectional communication line.

3. (currently amended) A method for providing remote telemetry for an industrial environment having a plurality of production devices with digital control units employing one or more of a diverse plurality of communication protocols to provide a discreet data streams comprising the steps of:

translating the output of said digital control units into a plurality of discrete data streams having a common communication protocol;

reversibly encoding said plurality of discrete data streams into a single data stream using said common communication protocol;

transmitting said data stream over an open network to a remote network in real time;

decoding said single data stream into said discrete data streams at said remote network, wherein each said discrete data stream is in a format particular to an individual production device.

4. (original) In production environment having a plurality of production devices with digital control units connected by at least one interface thereto and employing one or more of a diverse plurality of communication protocols to provide a discrete data stream, a system for providing process engineering from a remote data network comprising:

an open network connected to said remote data network and enabling data communication therebetween;

at least one translator connected to each of said plurality of control units to allow conversion of data between said diverse plurality of communication protocols and a common communication protocol;

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a data network local to said production environment and using said common communication protocol for connecting said at least one translator to said open network and allowing data communication therethrough with said remote data network;

an encoder at said local network that reversibly encodes said plurality of discrete data streams into a single data stream using said common communication protocol; and

a decoder at said remote network that decodes said single data stream into said plurality of discrete data streams, wherein each said discrete data stream is in a format particular to an individual production device.

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Hunt Does Not Teach or Suggest The Decoding Step

The Hunt reference does not implicitly teach the encoding/decoding steps, because Hunt requires the use of an HTTP server at each ADC device. In particular, the remote computer in Hunt has browsing software adapted for receiving and sending HTML documents, DHTML documents and XML documents over the Internet, and thus there is no need for decoding of a single data stream at the remote site into discrete raw data streams, as in the present invention.

No Motivation to Combine Hunt With Westberg

Westberg teaches the well-known concept of multiplexing data from a variety of different protocols over a single communication channel. There is simply no motivation to combine the multiplexing concept taught in Westberg with Hunt's system, because Hunt actually teaches away from using multiplexing or packetizing of data. As discussed, Hunt already provides a means for receiving and sending information in the form of HTML, DHTML and XML documents to and from the remote site, thereby obviating the need to multiplex data into a single data stream.

General Comparison Between Hunt and the Present Invention

In the present invention, raw machine data received from each production device is decoded at the remote site, and this data can be used to determine operational and configurational data to be sent back to the production devices. Thus, the present invention allows for real time, open ended reconfiguring of a plurality of production device. In contrast, since Hunt requires the use of HTTP servers at each ADC device and information is sent via HTML documents, DHTML documents and XML documents, the user is limited to the type of information that can be sent back to the ADC devices.

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